Electronic Version

Stylesheet Version v1.1.1

Claims

[c1] 1. A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein a duty cycle of the illumination control pulse signal varies within a predetermined range; and

a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.

[c2] 2. The control circuit of claim 1, wherein the illumination control pulse-generating unit further comprises:

a noise generator, for generating a noise signal;

an analogue adder, coupled to the noise generator for receiving the illumination-adjusting signal and the noise signal to produce a noise signal loaded illumination-adjusting signal; and

a comparator, coupled to the analogue adder for com-

paring the noise signal loaded illumination-adjusting signal with a triangular wave to produce the illumination control pulse signal.

[c3] 3. The control circuit of claim 2, wherein the level of the noise signals can be varied.

[c4] 4. A low visual noise pulse width modulation illumination control circuit for controlling the illumination of light-emitting diodes inside a liquid crystal display, comprising:

an illumination control pulse-generating unit, for receiving an illumination-adjusting signal and generating an illumination control pulse signal according to the illumination-adjusting signal, wherein the frequency of the illumination control pulse signal varies within a predetermined range; and

a DC/DC converter, coupled to the illumination control pulse-generating unit for driving the light-emitting diodes according to the illumination control pulse signal.

[c5] 5. The control circuit of claim 4, wherein the illumination control pulse-generating unit is implemented using a microprocessor.

[c6] 6. The control circuit of claim 4, wherein the phase of the illumination control pulse signal varies within a pre-

determined range.